

UNITED STATES PATENT AND TRADEMARK OFFICE

In re Application of: Hans Beer et al.
Application Number: 10/583,621
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Group Art Unit: 1711
Examiner: Saeed T. Chaudhry
Title: DISHWASHER CONTROL FOR DEALING WITH
LARGE AMOUNTS OF FOOD RESIDUES BY
VARIABLE WASH PROGRAMS

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APPEAL BRIEF

Pursuant to 37 CFR 1.192, Appellants hereby file an appeal brief in the above-identified application. This Appeal Brief is accompanied by the requisite fee set forth in 37 CFR 1.17(f).

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(1) REAL PARTY IN INTEREST

The real party in interest is BSH Bosch und Siemens Hausgeräte GmbH.

(2) RELATED APPEALS AND INTERFERENCES

There are no appeals or interferences that will directly affect or be directly affected by or have a bearing on the Board's decision in the pending appeal.

(3) STATUS OF CLAIMS

Claims 13-24 are pending and are the basis of this appeal. Claims 1-12 were canceled in the June 20, 2006 Preliminary Amendment. Claims 13 and 24 are independent.

(4) STATUS OF AMENDMENTS

The pending claims identified in the Claims Appendix correspond to the claims entered following the submission of the April 15, 2010 Amendment.

(5) SUMMARY OF CLAIMED SUBJECT MATTER

The present invention as recited in independent claim 13 relates to a method (S) for operating a dishwasher that includes a wash program (E) having partial program steps pre-wash (1), clean (2), intermediate rinse (3), clear rinse (4) and dry (5) (page 5, lines 32-34). In the method of the present invention, the pressure at which the washing liquid is conveyed from the circulating pump to the at least one spray device is varied in order to remove food

residues in small quantities in accordance with a predetermined hydraulic abrasion capacity (U) (page 6, lines 31-34). This variation of pressure can be done by varying at least one of spray pressure and spray quantity (page 7, lines 9-11). By varying the pressure or quantity at a predetermined hydraulic abrasion capacity, food residues can be carried away from the dishwasher in a manner such that the dishwasher filter remains functional (i.e., does not clog) during the wash program (page 7, lines 4-8).

Independent claim 24 relates to dishwasher comprising at least one washing container, a circulating pump which conveys washing liquid to at least one spray device for acting upon items to be cleaned (page 6, lines 31-33), which are located in the washing container, and means for executing a wash program (page 2, lines 30-33) at least composed of partial program steps prewash (1), clean (2), intermediate rinse (3), clear rinse (4) and dry (5), the dishwasher being operable to vary a pressure at which the washing liquid (page 6, lines 28-31) is conveyed from the circulating pump to the at least one spray device in order to remove food residues in small quantities by a pre-determined hydraulic abrasion capacity including at least one of spray pressure and spray quantity and carry the food residues away from the dishwasher, thus ensuring that a filter remains functional in a remainder of the wash program (page 7, lines 1-7).

This is an advantage over related art dishwashing methods where water jets act on the items to be washed using spray that is relatively strong and not varied, and thus food residues are released relatively rapidly during the pre-wash phase. Accordingly, there is a risk in the related art methods that the filter systems provided in the dishwasher become clogged with washing residues, which impedes the water circulation in the dishwasher. This impediment

may also result in back-contamination of the items to be washed as a result of size reduction and fine distribution of the washing residues deposited at the filter systems, thereby reducing the cleaning effect of the dishwasher (page 6, lines 4-6).

(6) GROUNDS OF REJECTION TO BE REVIEWED ON APPEAL

(a) Whether claims 13-15, 18-19, and 22-24 are unpatentable under 35 U.S.C. § 103(a) over Wyman (GB-2221384) in view of Eiermann et al. (U.S. Patent Publication No. 2002/0108639).

(7) ARGUMENT

(a) Claims 13-15, 18-19, and 22-24 are NOT unpatentable under 35 U.S.C. § 103(a) over Wyman (GB-2221384) in view of Eiermann et al. (U.S. Patent Publication No. 2002/0108639).

Claims 13-15, 18-19, and 22-24 stand rejected under 35 U.S.C. § 103(a) as being unpatentable over Wyman (GB-2221384) in view of Eiermann et al. (U.S. Patent Publication No. 2002/0108639). Appellants respectfully traverse this rejection.

Independent claim 13 recites a feature whereby the method comprises “varying a pressure at which the washing liquid is conveyed from the circulating pump to the at least one spray device in order to remove food residues in small quantities by a pre-determined hydraulic abrasion capacity . . . thus ensuring that a filter remains functional in a remainder of

the wash program.” The grounds of rejection allege that this feature is disclosed by Wyman. In particular, the grounds of rejection cite page 4, line 2 to page 5, line 34 of Wyman as disclosing a method of controlling the sequence of operation of all the elements of the dishwasher and means for periodically varying the strength of the jets. The grounds of rejection acknowledge that Wyman fails to disclose the claimed feature, more specifically recited in claim 15, of an intermediate rinse cycle, where the circulating pump is operated at about 30% to 60% of maximum capacity, in a second part section of the pre-wash process it is operated at about 50% to 100% of maximum capacity and in a third part section of the prewash process it is operated at about 30% to 60% of maximum capacity.

Appellants respectfully submit that the variation of the pump 15 in the Wyman dishwasher is varied for the purpose of controlling the level of acoustic noise during a wash process (see Wyman at page 1, line 15 – page 2, line 8) and not for the purpose of preventing the clogging of a filter. As such, in the Wyman dishwasher, the pump 15 starts at its lower speed of 2,000 rpm or 2,100 rpm, causing jets of cold water to soak into the layers of food waste on the surfaces of the articles stacked within the dishwasher in order to soften them. The water is recirculated as it collects in the sump 22, and this process continues for at least 4 minutes. The Wyman dishwasher timer 21 then causes the pump motor 151 to be switched to the higher voltage level, to rotate at the higher speed of 2,700 rpm for a substantially shorter period, for example, 2 minutes (see Wyman at page 4, lines 15-26). As such, Wyman *teaches away* from the current invention in that the two-stage process of a very low-pressure to soak the dishes followed by high pressure to rinse the dishes would still cause the food particles (residues) to clog the filter as prevented by the predetermined hydraulic abrasion capacity feature of the present invention.

In response to these arguments, at page 6 of the Final Office Action, the grounds of rejection state that the above argument is not persuasive and that “the claimed process only recites a step of varying a pressure which is performed by the Wyman disclosed process.” Appellants respectfully traverse this statement noting that the grounds of rejection summarily dismiss other combined features in the recitation of the claim such as varying pressure in such a manner based on a *pre-determined hydraulic abrasion capacity*. Hydraulic abrasion capacity as taught in the present specification at paragraph [007] relates to pressure and quantity which is not disclosed or suggested by Wyman or Eirmann et al. as further discussed below. Accordingly, Appellants respectfully submit that Wyman does not disclose or suggest a predetermined hydraulic abrasion capacity nor does it ensure that its filter remains functional in a remainder of the wash program as recited in independent claim 13.

Appellants note that Eiermann et al. is cited in the grounds of rejection as disclosing a method and apparatus for operating a dishwasher having a conventional complete dishwashing program that runs in partial steps. It too fails to disclose the predetermined hydraulic abrasion capacity feature of the present invention. While the grounds of rejection allege that it would have been obvious at the time Appellants invented the claimed process to incorporate the intermediate rinse cycle as disclosed by Eiermann et al. into the process and apparatus of Wyman for the purpose of increasing the rinsing effect for removal of the detergent solution from the objects, Appellants respectfully submit that this would not disclose or suggest using a predetermined hydraulic abrasion capacity feature as in the present invention to ensure a filter remains functional in a remainder of the wash program. Indeed, as discussed above, the Wyman method with its pre-soak and then higher pressure rinse would lead to clogging of the filter as in the related art.

The grounds of rejection in the Final Office Action further state that the aforementioned argument is unpersuasive because the claimed process does not include any different steps which provide a predetermined hydraulic abrasion capacity and ensure that its filter remains functional, and that Appellants have not shown that the Wyman process does not perform these steps. Appellants respectfully submit that neither Wyman or Eirmann et al. disclose or suggest the feature for the reasons above, and that the Examiner bears the initial burden of factually supporting any *prima facie* conclusion of obviousness. In this case, Appellants respectfully submit that the burden has not been met. Accordingly, Appellants submit that independent claim 13 is allowable (as well as independent claim 24 including similar features), along with dependent claims 14-23 that depend from claim 13.

Further, Wyman does not suggest how the rpm's therein relate to operating the pump in specific speeds with respect to the capacity of the pump at about 30% to 60% of maximum capacity, 50% to 100% of maximum capacity and at about 30% to 60% of maximum capacity. A maximum capacity of the pump in Wyman is not disclosed; only that it is operated at lower rpm's to reduce the noise level during a wash. This allowable feature is disclosed in dependent claims 15 and 19.

Claim 16 stands rejected under 35 U.S.C. § 103(a) as being unpatentable over Wyman in view of Eiermann et al., and further in view of Edwards et al. (U.S. Patent No. 5,849,101). Claim 17 stands rejected under 35 U.S.C. § 103(a) as being unpatentable over Wyman in view of Eiermann et al., and further in view of DE-2441361. Claim 20 stands rejected under 35 U.S.C. § 103(a) as being unpatentable over Wyman in view of Eiermann et al., and further in view of Sakata (U.S. Patent No. 5,355,900). Claim 21 stands rejected under 35 U.S.C. § 103(a) as being unpatentable over Wyman in view of Eiermann et al., and further in view of

Edwards et al. and Sakata. Claims 16, 17, 20, and 21 are allowable at least based on their dependence on claim 13.

(8) CONCLUSION

In view of the foregoing discussion, Appellants respectfully request reversal of the Examiner's rejections.

Respectfully submitted,

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CLAIMS APPENDIX

1-12 (Canceled).

13. (Rejected) A method for operating a dishwasher comprising at least one washing container, a circulating pump which conveys washing liquid to at least one spray device for acting upon items to be cleaned, which are located in the washing container, and comprising a wash program at least composed of partial program steps pre-wash (1), clean (2), intermediate rinse (3), clear rinse (4) and dry (5), the method comprising varying a pressure at which the washing liquid is conveyed from the circulating pump to the at least one spray device in order to remove food residues in small quantities by a pre-determined hydraulic abrasion capacity including at least one of spray pressure and spray quantity and carry the food residues away from the dishwasher, thus ensuring that a filter remains functional in a remainder of the wash program.

14. (Rejected) The method according to claim 13, wherein a speed and therefore a capacity of the circulating pump for conveying washing liquid can be varied.

15. (Rejected) The method according to claim 13, wherein in a first part section of the pre-wash process, the circulating pump is operated at about 30% to 60% of maximum capacity, in a second part section of the pre-wash process it is operated at about 50% to 100% of maximum capacity and in a third part section of the prewash process it is operated at about 30% to 60% of maximum capacity.

16. (Rejected) The method according to claim 13, wherein the circulating pump is operated at least intermittently when the washing liquid used for a part program step (1, 2, 3, 4) is admitted into the dishwasher.

17. (Rejected) The method according to claim 13, wherein the quantity of washing liquid introduced into the dishwasher for a part program step (1, 2, 3, 4) is only a part of the total washing liquid which can be received by the dishwasher.

18. (Rejected) The method according to claim 13, wherein the quantity of washing liquid used for a part program step (1, 2, 3, 4) is varied during the relevant part program step (1, 2, 3, 4).

19. (Rejected) The method according to claim 13, wherein the quantity of washing liquid present in the dishwasher for a part program step (1, 2, 3, 4) in a first part section of a relevant part program step (1, 2, 3, 4) is between about 30% and 60% of the total washing liquid which can be received by the dishwasher, in a second part section of the relevant part program step (1, 2, 3, 4) the quantity of washing liquid present in the dishwasher is between about 50% and 100% of the total washing liquid which can be received by the dishwasher, and in a third part section of the relevant part program step (1, 2, 3, 4) the quantity of washing liquid present in the dishwasher is between about 30% and 60% of the total washing liquid which can be received by the dishwasher.

20. (Rejected) The method according to claim 13, wherein a lye pump for pumping away washing liquid from the dishwasher is operated at least intermittently during a part program step (1, 2, 3, 4).

21. (Rejected) The method according to claim 13, wherein a lye pump and a circulating pump are operated alternately in order to free the filter from food residues.

22. (Rejected) The method according to claim 13, wherein after each part program step (1, 2, 3, 4) using washing liquid, a substantially complete change of washing liquid is undertaken.

23. (Rejected) The method according to claim 13, wherein the washing liquid used for a part program step (1, 2, 3,4) is preferably completely exchanged at least once during the part program step (1, 2,3,4).

24. (Rejected) A dishwasher comprising at least one washing container, a circulating pump which conveys washing liquid to at least one spray device for acting upon items to be cleaned, which are located in the washing container, and means for executing a wash program at least composed of partial program steps prewash (1), clean (2), intermediate rinse (3), clear rinse (4) and dry (5), the dishwasher being operable to vary a pressure at which the washing liquid is conveyed from the circulating pump to the at least one spray device in order to remove food residues in small quantities by a pre-determined hydraulic abrasion capacity including at least one of spray pressure and spray quantity and carry the food residues away from the dishwasher, thus ensuring that a filter remains functional in a remainder of the wash program.

EVIDENCE APPENDIX

None

RELATED APPEALS APPENDIX

None